

ABSTRACT

DESIGN ENGINE CAR PROTECTION AGAINST OVER HEATING AND WARNING AGAINST VOLTAGE CHANGES TO PREVENT BATTERY DAMAGE

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Temperature and voltage detector in a car is a must exist in every car. In the old cars (year of manufacture under 2000) indicators are just a pointer with a scale. Disadvantages use analog meter is mostly driver pay less attention to this, most realize after the irregularities on the condition of the engine. If the car had an excess temperature and not treated quickly can lead to over heating.

This tool can read the value of temperature using LM35 temperature sensor and is able to keep the engine always at the optimum temperature. In this system also installed a voltage sensor to read the battery voltage value. temperature and voltage value displayed on the LCD 2x16.

Voltage sensors are used to read the value of the voltage of the car battery. The system will give a warning buzzer sounds when the reading value of the voltage is below 11 volts and is above 14.5 volts. LM35 sensor functions do temperature readings on coolant. When the temperature is below the 87⁰C then the system will not activate the fan. When the temperature reaches 87⁰C, then there is a response from the microcontroller to activate a relay that activates an extra fan. If the extra fan has not been able to lower the engine temperature and the engine temperature continue to rise up, then at a temperature of 90⁰C there will be a warning sound of the buzzer which indicates that the vehicle is in an abnormal heat. And when the temperature continues to rise and reaches temperatures of 100⁰ C, the system will shut off the engine forcibly because the engine temperature reaches a temperature of over heating will cause the cost of repair is much greater.

Keyword : *over heating, extra fan, LM35, buzzer, voltage sensor*